

Name:**Date: 4/9/2014**

Directions: Calculators are allowed, but you shouldn't need to use your calculator. Use your equals signs!
Use the back of the page if you run out of space.

1. (5 marks) Calculate the double integral

$$\iint_R (x^2 - y) \, dy \, dx$$

over the region R bounded by $-1 \leq x \leq 1$, $-x^2 \leq y \leq x^2$.

2. (5 marks) Find the particular solution to the separable differential equation:

$$\frac{dy}{dx} = \frac{x^2 + 5}{2y - 1}$$

given the initial condition $y(0) = 11$.